FIG. 1A

Application Server 126

104

Web Browser

Client 104A

Toolbar 105

/ Agent

Java applet

116

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Mingtse Chen Adaptive Communication First Inventor: Title: Interface plication Programming connection 133 Active Communication Server Session Thread 122 Communication Session Mode Driver 120D ACD Switch ACD Switch Channel Manager 130E 119 124 connection 135B Communication / API 125 Active - Active connection 135A Persistent HTTP connection 131 Communication Service 113 Web Engine FIG. 1B Web Server Plug-In 185 188 Web Engine Session Thread 166 Object Manager Server 107 Communication Client Service 160 Web Browser Java applet 116 oolbar 105 Client 104A Web Engine

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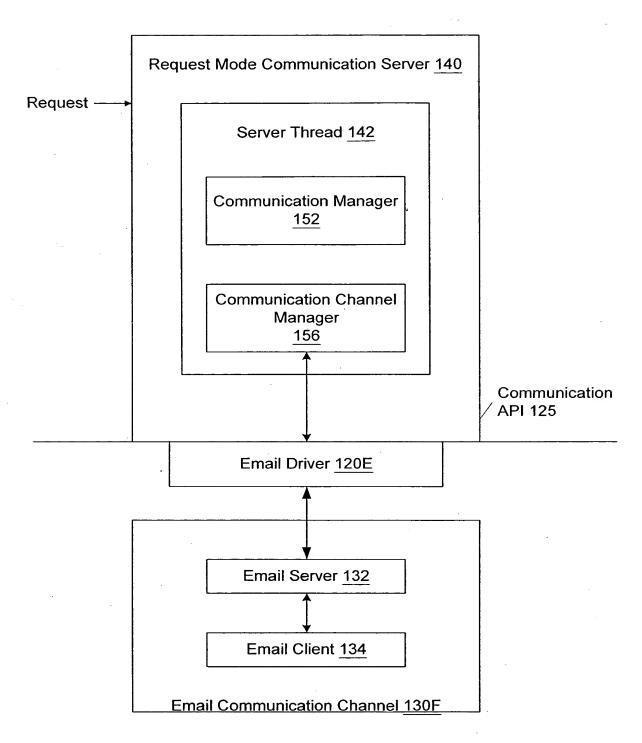
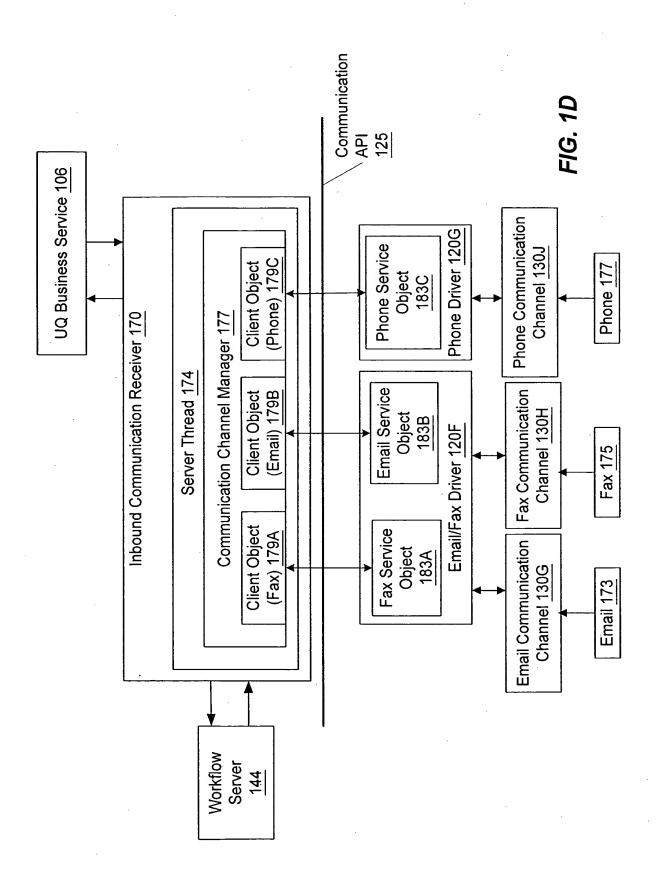


FIG. 1C

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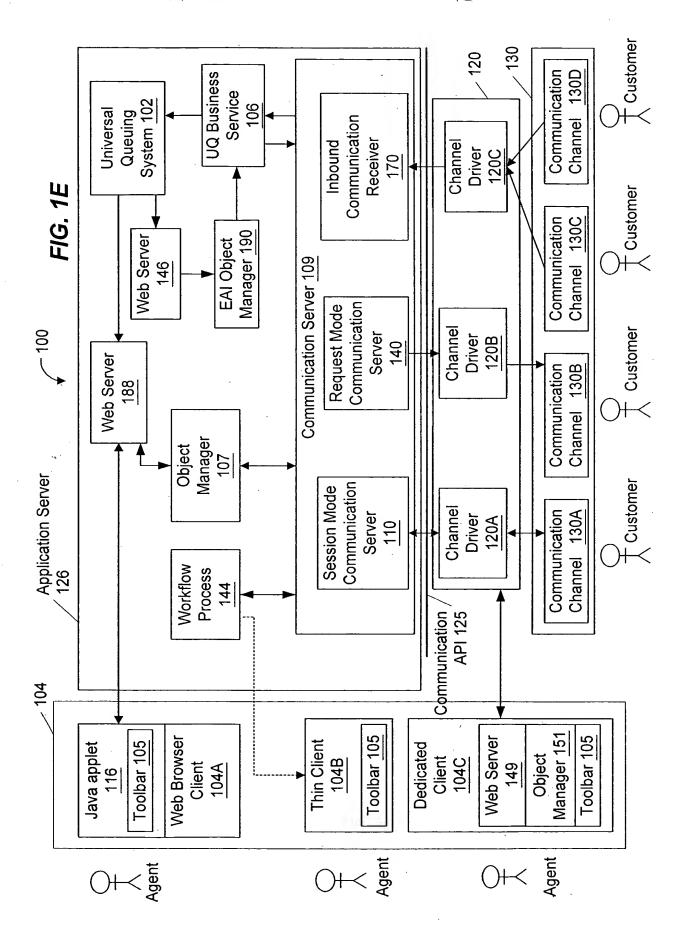
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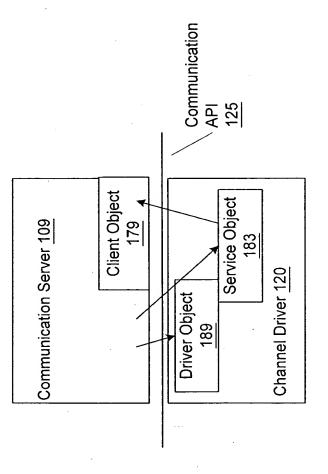
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Communication Server 109 Client Object Client Object 179A-1 179A-2 179A-3	Channel Driver 120	Driver Object 189	Service Object Service Object Service Object 183A-1 183A-2 183A-3	
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Communication Server 109 Client Object Client Object 179A 179B 179C	Channel Driver 120	Driver Object 189	Service Object Service Object 183A 183B 183C	
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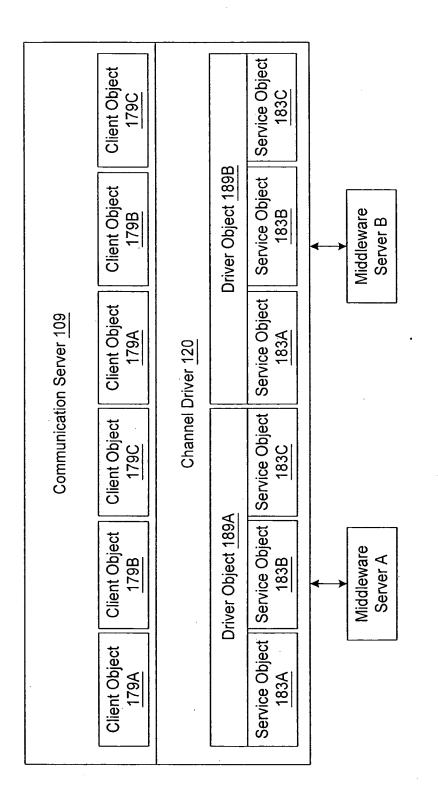
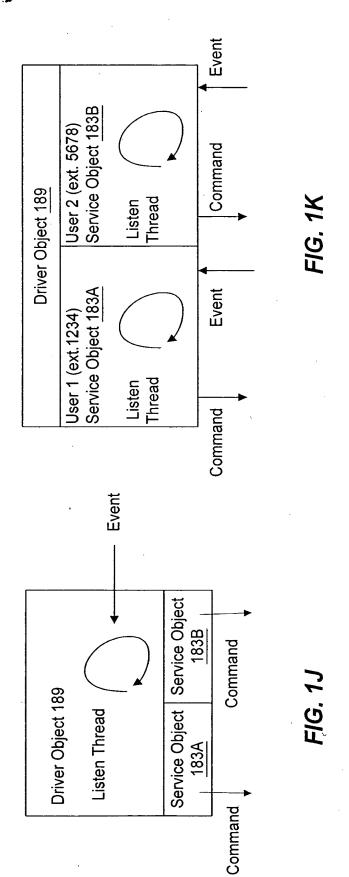


FIG. 1

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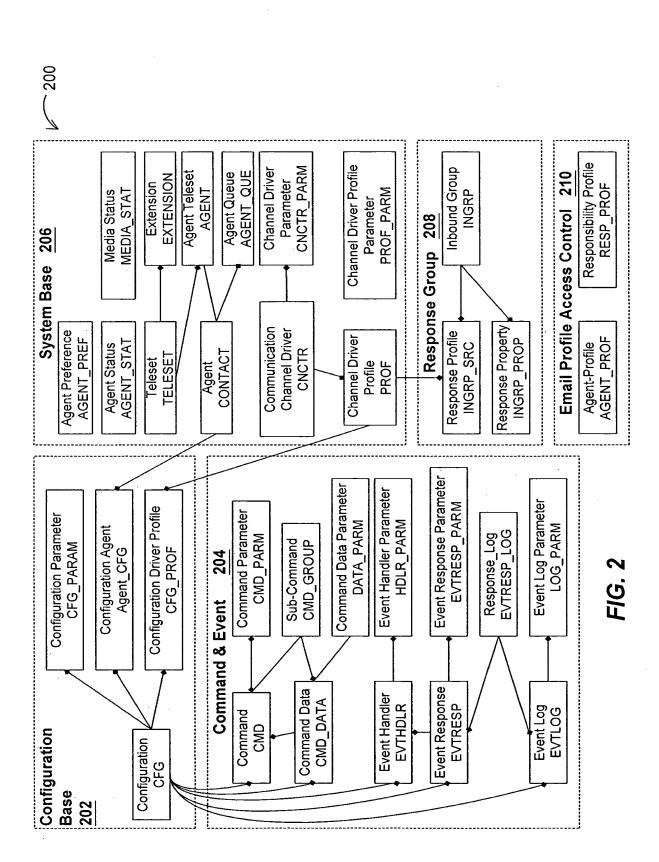


FIG. 2a: CNCTR, Communication Channel Driver Table

Column Name	Type	Length	Comments
CNCTR_ID	Varchar	15	Identifier for channel driver channel driver CNCTR. CNCTR refers to
			software connector.
NAME	Varchar	75	Name of channel driver.
MEDIA_TYPE	Varchar 50	50	Media type. The value of this column can
			be expanded by customer.
LIB_NAME	Varchar 250	250	File name of channel driver DLL
INBOUND_FLG	Char	-	To indicate whether this channel driver
			supports inbound communications
OUTBOUND_FLG	Char		To indicate whether this channel driver
			supports outbound communications
CNCTR_MEDIA_STR Varchar	Varchar	100	The media string defined by the driver
			vendor, which will be used at run time to
			invoke the media service for the channel
			driver.
DESC_TEXT	Varchar	250	Comments
UQ_DRIVER_FLAG	Char		To indicate whether this channel driver is
			Universal Queuing type of channel driver

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FIG. 2b: CNCTR_PARM, Channel Driver Parameter Table

Column Name	Type	Length	Type Length Comments
CNCTR_PARM_ID Varchar 15	Varchar	15	Identifier for channel driver parameter
NAME	Varchar 75	75	Name of channel driver parameter
DFLT_VALUE	Varchar 250	250	Default value of channel driver
		-	parameter
CNCTR_ID	Varchar 15	15	
REQUIRED_FLG	Char	1	To indicate whether this parameter
			must have a value at runtime

FIG. 2c: PROF, Communication Channel Driver Profile Table

Column Name	Type	Length	Length Comments
PROF_ID	Varchar 15	15	Identifier for channel driver profile
NAME	Varchar 7	75	Name of channel driver profile
CNCTR_ID	Varchar 15	15	

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FIG. 2d: PROF_PARM, Communication Channel Driver Profile Parameter Table

Column Name	Type	Length	Type Length Comments
PROF_PARM_ID Varchar 15	Varchar	15	Identifier for channel driver profile
			parameter
PROF_ID	Varchar 15	15	Channel Driver Profile ID
CNCTR_PARM_I Varchar 15	Varchar	15	Parameter name ID
Ω			
VALUE	Varchar 250	250	Override value of channel driver
	-		profile parameter:

FIG. 2e: AGENT_PREF, Agent Preference Table

Column Name	Type	Length	Type Length Comments
AGENT_PREF_ID Varchar	Varchar	15	Identifier for agent preference
EMP_ID	Varchar 15	15	
SETTING_NAME Varchar 75	Varchar	75	Preference name
SETTING_VALUE Varchar 250	Varchar	250	Preference value
SETTING_TYPE	Varchar 50	20	Preference type, e.g., "CTI" or
			"Communication"

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FIG. 2f: AGENT_STAT, Agent Status Table.

Column Name	Type	Length	Length Comments
AGENT_STAT_ID Varchar 15	,Varchar	15	Identifier for agent status
EMP_ID	Varchar 15	15	Employee ID
PROF_ID	Varchar 15	15	The channel driver profile ID. Agent
			has different status for different types
			of channel driver profiles.
NOT_READY_FL Char G	Char	1	Is agent not ready?
BUSY_FLG	Char		Is agent busy?

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FIG. 2g: MEDIA_STAT, Communication Media Status Table.

Column Name	Type	Length	Type Length Comments
MEDIA_STAT_ID	Varchar 15	15	Identifier for media status
EMP_ID	Varchar 15	15	Employee ID
PROF_ID	Varchar 15	15	The channel driver profile ID of the
			channel driver profile to which the
			status corresponds.
MEDIA_OBJECT_	Varchar 250	250	The string to represent the media object
STR			(e.g. the agent's extension number, or
			the sender's address of an email)
WORKING_SINCE Date	Date	7	Work item starting time
DT	Time		
WORK_ITEM_STR Varchar 250	Varchar		Work item ID

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FIG. 2h: TELESET, Teleset Table.

Column Name	Type	Length	Type Length Comments
TELESET_ID	Varchar 1	15	Identifier for teleset
NAME	Varchar 30	30	Teleset Name
HOSTNAME	Varchar 70	20	Hostname of the computer connected to the
			Teleset.
COMMENTS	Varchar 250	250	

FIG. 2i: EXTENSION, Extension Table.

Column Name	Type	Length	Type Length Comments
EXTENSION_ID	Varchar 15	15	Identifier for extension
TELESET_ID	Varchar 15	15	Teleset ID
DN_EXT	Varchar 15	15	Extension Information
EXT_ACD_QUE	Varchar 30	30	This is the ACD queue to which this
			extension belongs.
EXT_TYPE	Varchar 30	30	ACD Extension or standard extension
AUTO_LOGIN_FLAG Char	Char		Indicate if we need to login to ACD for
			this extension at startup.

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FIG. 2j: AGENT, Communication Agent Table.

Column Name	Type	Length	Type Length Comments
AGENT_ID	Varchar 15	15	Identifier for agent
PR_CFG_ID	Varchar 15	15	The primary configuration the agent
			uses.
EMP_ID	Varchar	15	Employee ID
ACTIVE_CFG_ID Varchar 15	Varchar	15	The currently active configuration.
ACTIVE_TELESET Varchar 15	Varchar	15	The Teleset that the agent is currently
A _			using.

FIG. 2k: AGENT_TELSET, Communication Agent-Teleset Table

Column Name	Type	Length	Type Length Comments
AGENT TELSET ID Varchar 1:	Varchar		Identifier for agent/teleset
!			relationship
AGENT_ID	Varchar 15	15	Agent ID
TELESET ID	Varchar	5	Teleset ID

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FIG. 21: AGENT_QUE, Agent-Queue Table.

Column Name .	Type	Length	· Type Length Comments
AGENT_QUE_ID Varchar 15	Varchar	15	Identifier for agent/queue relationship
AGENT_ID	Varchar 15	·	Agent ID
ACD_QUEUE_NA Varchar 30 ME	Varchar	30	ACD Queue
AUTO_LOGIN_FL Char	Char	1	Indicates need to login to ACD for this
AG			extension at startup.

FIG. 2m: AGENT_LIM, Communication Agent Limitation Table.

Column Name	Type	Length	Type Length Comments
AGENT_LIM_ID	Varchar 1	15	Identifier for agent limitation
AGENT_ID	Varchar 15	15	Agent ID
PROF_ID	Varchar 1:	15	Channel Driver Profile ID that agent
			cannot use.

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FIG. 2n: CFG, Communication Configuration Table.

Column Name	Type	Length	Type Length Comments
CFG_ID	Varchar 1	S	Identifier for configuration
NAME	Varchar 30	30	Configuration name
INGRP_FLAG	Char	1	To indicate whether this configuration is
			for inbound response group used in
	-		inbound communication receiver.
COMMENTS	Varchar 250	250	

FIG. 20: CFG_PROF, Communication Configuration Channel Driver Profile Table

Column Name	Type	Length	Type Length Comments
CFG_PROF_ID	Varchar 15	15	Configuration/channel driver profile
			relationship
CFG_ID	Varchar 15	15	Configuration ID
PROF_ID	Varchar 15	15	Channel Driver Profile ID

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FIG. 2p: AGENT_CFG, Communication Agent - Configuration Table

Column Name Type Length Comments	Type	Length	Comments
AGENT_CFG_ID Varchar	Varchar	15	Identifier for agent/configuration
			relationship
AGENT_ID	Varchar 1	15	Agent ID
CFG_ID	Varchar	15	Configuration ID

FIG. 2q: CFG_PARM, Communication Configuration Parameter Table.

Column Name	Type	Length	Length Comments
CFG_PARM_ID	Varchar 15	15	Identifier for configuration
	-		parameterand
CFG_ID	Varchar 15	15	Configuration ID
NAME	Varchar 50	50	Parameter Name
VALUE	Varchar 50	50	Parameter Value
ACTIVE FLG	Char	1	Active flag is set if the value is valid

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FIG. 2r: CMD, Communication Command Table

Column Name	Type	Length	Type Length Comments
CMD_ID	Varchar 15	15	Identifier for command
CFG_ID	Varchar 15	.15	Configuration ID
NAME	Varchar 70	20	Command name
TYPE	Varchar 50	20	Command type
PROF_ID	Varchar 15	15	The channel driver profile ID for the
			channel driver profile that this
			command is targeting.

FIG. 2s: CMD_PARM, Communication Command Parameter Table

Column Name	Type	Length	Length Comments
CMD_PARM_ID	Varchar 15	15	Identifier for command parameter
CMD_ID	Varchar 15	15	Command ID
PARAM_NAME	Varchar 100	100	Command parameter name
PARAM_VALUE Varchar 100	Varchar	100	Command parameter value

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FIG. 2t: CMD_DATA, Communication Command Data Table

Column Name	Type	Length	Length Comments
CMD_DATA_ID	Varchar 15	15	Identifier for command data
CFG_ID	Varchar	15	Command ID
NAME	Varchar 100	100	Command parameter name
Comment	Varchar 200	200	Comment (optional)

FIG. 2u: CMD_DATA_PARAM, Communication Command Data Parameter Table

Column Name	Type	Length	Length Comments
CMD_DATA_PAR Varchar 15	Varchar	15	Identifier for command data
AM_ID			parameter
CMD_DATA_ID	Varchar 15	15	Identifier for command data
PARAM_NAME	Varchar 100	001	Command parameter name
PARAM VALUE Varchar 200	Varchar	200	

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FIG. 2v: CMD_GROUP, Communication Command Group Table

Column Name	Type	Length	Length Comments
CMD_GROUP_ID \	Varchar	15	Identifier for group of commands
SUB_CMD_ID	Varchar	15	Foreign key to command table
ORDER	Number	10	Default "0"

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FIG. 2w: EVTHDLR, Communication Event Handler Table

Column Name	Type	Length	Length Comments
EVTHDLR_ID	Varchar 15	15	Identifier for event handler
PROF_ID	Varchar	15	The channel driver profile ID for
			the channel driver profile from
			which this event originated.
NAME	Varchar	100	Event name
MEDIA_EVENT	Varchar 100	100	Identifier for event
ORDER	Number	10	Default "0"
EVT_RESP_ID	Varchar	15	Foreign key to event response table
Comment	Varchar	200	Comment (optional)

FIG. 2x: HDLR_PARM, Communication Event Handler Parameter Table

Column Name	Type	Length	Length Comments
HDLR_PARM_ID Varchar 15	Varchar	15	Identifier for event handler response
EVT_HDLR_ID	Varchar 15	15	Identifier for event handler
PARAM_NAME Varchar 100	Varchar		Event parameter name
PARAM VALUE Varchar 200	Varchar	200	Event parameter value

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FIG. 2y: EVTRESP, Communication Event Response Table

Column Name	Type	Length	Length Comments
EVTRESP_ID	Varchar	15	Identifier for event response
CFG_ID	Varchar	15	Identifier for configuration
NAME	Varchar	100	Event parameter name
COMMENT	Varchar 200	200	Comment (optional)

FIG. 2z: EVTRESP_PARM, Communication Event Response Parameter Table

Column Name	Type	Length	Length Comments
RESP_PARM_ID	Varchar 15	15	Identifier for event response
			parameter
EVTRESP_ID	Varchar 1:	15	Identifier for event response
PARAM_NAME	Varchar 100	100	Event response parameter name
PARAM_VALUE Varchar 200	Varchar	200	Event response parameter value

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FIG. 2aa: EVTLOG, Communication Event Log Table

Column Name	Type	Length	Length Comments
EVTLOG_ID	Varchar	15	Identifier for event log
CFG_ID	Varchar	15	Foreign key for configuration table
NAME	Varchar	100	Event parameter name
COMMENT	Varchar 200	200	Comment (optional)

FIG. 2bb: LOG_PARM, Communication Event Log Parameter Table

Column Name	Type	Length	Length Comments
LOG_PARM_ID	Varchar 15	15	Identifier for event log parameter
EVTLOG_ID	Varchar	15	Identifier for event log
PARAM_NAME	Varchar 100	100	Event log parameter name
PARAM VALUE Varchar 200	Varchar		Event log parameter value

FIG. 2cc: EVTRESP_LOG Event Response - Event Log Table

Column Name	Type	Length	Length Comments
RESP LOG ID	1	15	Identifier for response log
EVTRESP_ID	Varchar	15	Identifier for event response
EVTLOG ID	Varchar	15	Identifier for event log
LOG TYPE	Varchar	100	Type of EventLog declaration
l			specified in EventResponse
			definition.

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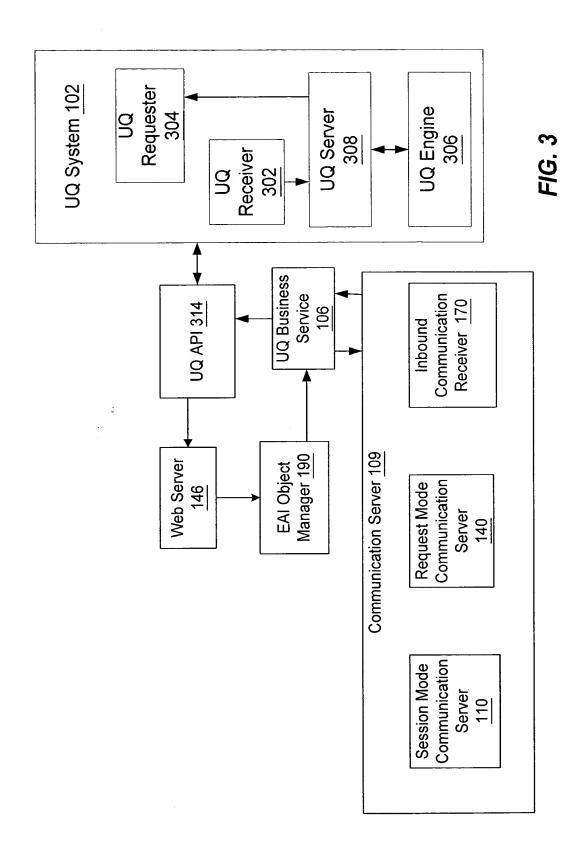


FIG. 4a: TABLE UQ_CFG

Column_Name	Type	Length	Comments
NAME	Varchar	75	
SERVER_NAME	Varchar	75	
SERVER_PORT	Number	10	
RECEIVER_NAME	Varchar	75	
RECEIVER_PORT	Number	10	

FIG. 4B: TABLE UQ_CFG_PARAM

Column_Name	Type	Length	Comments
UQ_CFG_ID	Varchar	15	
NAME	Varchar	50	
VALUE	Varchar	50	

FIG. 4C: TABLE UQ_ROUTE

Column_Name	Type	Length	Comments
NAME	VarChar	75	User defined name of the route
MEDIA TYPE CD	VarChar	30	Select from value of list. Possible
1			values include "PBX", "Web Chat",
			"Web Collaboration", "Fax", "E-
,			Mail"
ACTIVE_FLG	Char		Indicates wheter this route is active or
			not. If the route is not active,
			information for this route will not be
			passed to UQ engine.
PRIORITY_CD	Varchar	30	Lower the value higher the priority.
CAPACITY	Number	10	Maximum capacity of this route.
	•		Alarm should be generated when the
·			number of queued item exceeds the
			CAPACITY
TIME_OUT_SCND	Number	10	Time in second in which when the
			work item is not server, the first
			escalation rule will be effective.

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FIG. 4D: TABLE UQ_ROUTE_PROP

Column_Name	Type	Length	Comments
UQ_ROUTE_ID	Varchar	15	
NAME	Varchar	75	Name of the property
VALUE	Varchar	75	Value of the property

FIG. 4E: TABLE UQ_ROUTE_ESCL

	Type	Length	Comments
	Varchar	15	
NAME	Varchar	75	Name of the escalation rules
TIME OUT SCND	Number	10	Time in seconds in which the
1			escalation rule will be timed out. Zero
			time means waiting indefinitely.
SEQ NUM	Number	10	Order of escalation rules

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FIG. 4F: TABLE UQ_RTESCL_RUL

Column_Name	Type	Length	Comments
ROUTE_ESCL_ID	Varchar	15	
SKILL_NAME	Varchar	50	Skill
SKILL_ITEM	Varchar	50	If skill item is null, it is a substitution
			of language from the work item data
			property.
EXPERTISE	Varchar 30	30	LOV, default Value

FIG. 4G: TABLE UQ_SKL_MAP

Column_Name	Type	Length	Comments
ROUTE_PROP_NAME	Varchar	75	
ROUTE_PROP_VALUE	Varchar	75	
SKILL_NAME	Varchar	75	
SKILL_VALUE	Varchar	75	

FIG. 4H: TABLE UQ_USER_MEDIA

Column_Name	Type	Length	Comments
USER_ID	Varchar	15	
MEDIA_TYPE_CD	varchar	30	
MAX_NUM_SESSIONS	Numper	10	Maximum session allowed.

STS
ROUTE
On On
TABLE 1
. 4I:
FIG

Column_Name	Type	Length	Comments
ROUTE_ID	Varchar	75	
START_TS	Date Time		
END_TS	Date Time		
SOURCE_NAME	Varchar	75	Either the route name
AVG_WAIT_TM	Number	10	Waiting time during the given period
AVG_HANDLE_TM	Number	10	Handling time during the period
NUM_ABANDONED_REQS	Number	10	Number of abandon request
AVG_ABANDONING_TM	Number	10	
LONGEST_WAIT_TM	Number	10	Longest waiting time in seconds
AVAIL_USER_PCT	Number	10	Percentage of available agents
AUX_WORK_USER_PCT	Number	. 10	Percentage of auxwork agents
TOTAL_NUM_WORKITEMS	Number	10	Total number of agent if each agent
			handle only one work item
TOTAL_NUM_UNASSIGNED_WORKI TEM	Number	-	
TOTAL_NUM_DELIVERED_WORKIT EM	Number		
TOTAL_NUM_SERVICE_LEVEL_WOR Number KITEM	Number		
Comments	Varchar	250	

FIG. 4J: TABLE UQ MEDIA_STS

Column_Name	Type	Length	Comments
MEDIA_TYPE_CD	Varchar	30	
START_TS	Date Time		
END_TS	Date Time		
SOURCE_NAME	Varchar	75	Either the route name
AVG_WAIT_TM	Number	10	Waiting time during the given period
AVG_HANDLE_TM	Number	10	Handling time during the period
NUM_ABANDONED_REQS	Number	10	Number of abandon request
AVG_ABANDONING_TM	Number	10	
LONGEST_WAIT_TM	Number	10	Longest waiting time in seconds
AVAIL_AGENT_PCT	Number	10	Percentage of available agents
AUX_WORK_AGENT_PCT	Number	10	Percentage of auxwork agents
TOTAL_NUM_WORKITEMS	Number	10	Total number of agent if each agent
			handle only one work item
TOTAL_NUM_UNASSIGNED_WO Number RKITEM	Number		
TOTAL_NUM_DELIVERED_WOR KITEM	Number		
TOTAL_NUM_SERVICE_LEVEL_ WORKITEM	Number		
Comments	Varchar	250	

FIG. 4K: TABLE UQ_AGENT_STS

Column_Name	Type	Length	Comments
AGENT_ID	Varchar	15	
START_TS	Date Time	7	
END_TS	Date Time	7	
CONTACT_ID	Varchar	15	
AVAIL_PCT	Number		Percentage available
BUSY_PCT	Number		Percentage busy
AUX_WORK_PCT	Number		Percentage auxwork
NUM_COMM_ITEM_SRVD	Number		Number of work item served
Comments	Varchar	250	

FIG. 4L: TABLE UQ_ERR_LOG

Column_Name	Type	Length	Comments
Name	DateTime	L	
TYPE_CD	Varchar	30	Either alarm or error
Severity	Varchar	30	
ERROR_CODE	Varchar	10	Alarm code or error code
MSG_DESC	Varchar	250	Template for message

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FIG. 4M: S_JOURNAL

Column_Name	Type	Length	Comments
WORK_ITEM_ID	Varchar	250	Work item ID
ROUTE_NAME	Varchar	75	The name of the route. Use the actual
			name instead of ID because the nature
			of the route could be changing from
			time to time.

Fig. 4n: S_JOURNAL_WORKITEM_PROPERTY

Column_Name	Type	Length	Comments
JOURNAL_ID	Varchar	15	
Name	Varchar	75	Name of the property
Value	Varchar	75	Value of the property

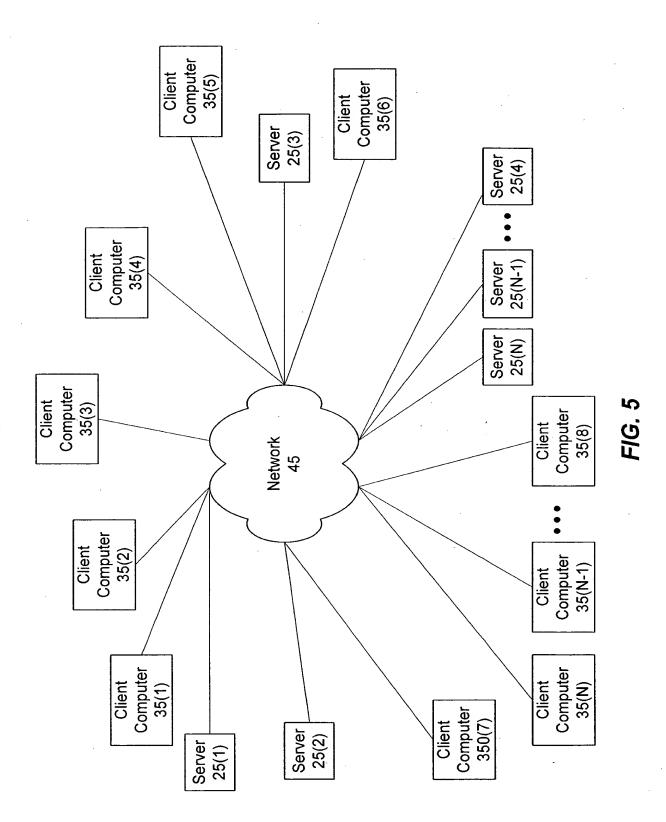
Fig. 40: S_JOURNAL_ESC_HIST

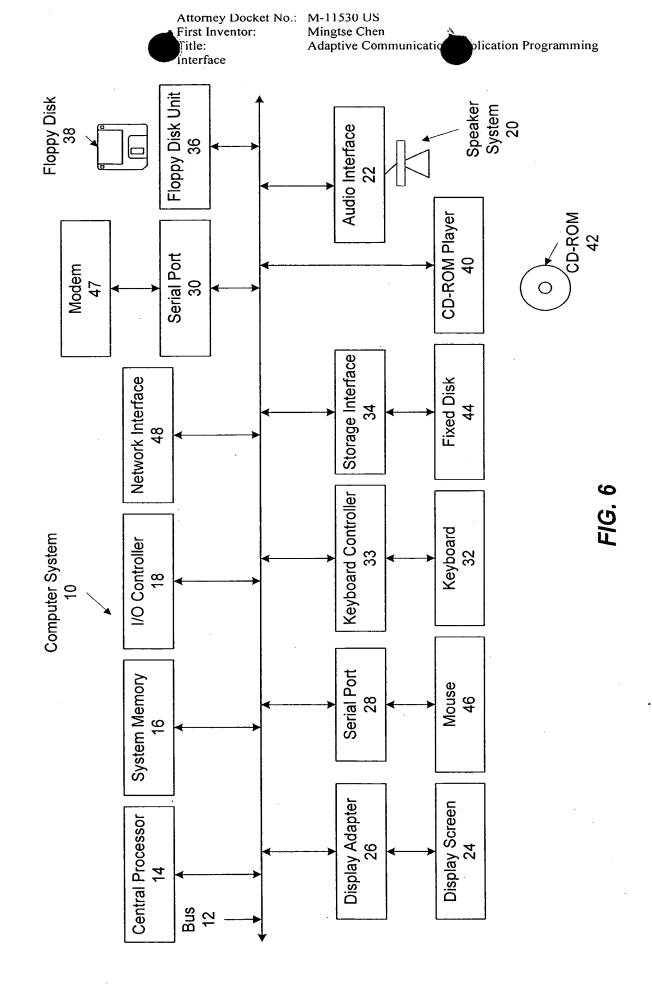
Column_Name	Type	Length	Comments
JOURNAL_ID	Varchar	15	
ESC_STEP_NAME		75	
START_TIME	Date Time		Start time
END_TIME	Date Time		
RESULT	Varchar	75	

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Fig. 4p: S_JOURNAL_STATE_HIST

Column_Name		Length	Comments
JOURNAL_ID	Varchar	15	
USERID	Varchar	15	
START_TIME	Date Time		Start time
END_TIME	Date Time		
AGENTSTATE	Varchar	50	
REASON	Varchar	50	





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